

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of

Improving Public Safety Communications in the
800 MHz Band

Consolidating the 900 MHz Industrial/Land
Transportation and Business Pool Channels

WT Docket No. 02-55;
DA 03-19; DA 03-163

COMMENTS OF THE BOEING COMPANY

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SUMMARY

The supplemental filing of the Consensus Parties (the “Supplement”) ultimately fails for a multitude of reasons. Boeing’s comments focus on the provisions of the Supplement related to the border areas and the 1.9 GHz spectrum request primarily. There are several other areas of concern as well, however, such as the risk of multiple potentially unfunded B/ILT relocations, the questionable funding mechanism, and the alarming lack of Commission oversight and control over the proposed process. Regarding the critical border areas particularly, the Supplement fails as a plan to eliminate interference and provide spectrum for national security along international borders. This is due, in large part, to the Consensus Plan’s lack of a consistent solution to the 800 MHz interference problem with regard to the heartland United States and the border areas. Because of these deficiencies, the Commission should expeditiously declare that it will not adopt the Consensus Plan as currently proposed.

The Border Area Solutions Contained in the Supplement Are Inequitable and Infeasible

The proposed solution for the Canadian and Mexican border areas in general, and Canadian Border Region 5 in particular, is inequitable and is neither technically nor internationally feasible. First, the proposed solution fails to resolve 800 MHz Public Safety interference in the border areas, and, at the same time, inequitably harms B/ILT incumbents. Second, the overall number of channels allocated for B/ILT licensees in the border area is significantly reduced, and the quality of the channels offered to B/ILT licensees under the proposal is also reduced. Third, the Supplement contains inadequate provisions for border area guard bands—it does not contain *any provisions whatsoever* for guard bands in any of the Canadian border regions. This will lead to increased occurrences of harmful interference to Public Safety and B/ILT operations. Fourth, the Supplement would create a new “double

border” coordination problem for licensees in all border areas. These problems will require additional coordination, reduce the efficient use of channels in the border area, reduce the utility of simulcast systems, and create unique problems for Public Safety licensees. Fifth, reliance on secondary operations in the Canadian border regions cannot be a mainstay of the Canadian border region solution. Sixth, the Supplement calls for certain power increases that would prove technically prohibitive and would likely violate existing bilateral agreements. Because of these issues, the border area provisions included in the Supplement cannot be tolerated.

Potential Border Area Solutions Exist

The Commission could take several steps to reduce the negative impacts on incumbents and help eliminate border area interference within the context of an 800 MHz rebanding proposal. It could explore a “grandfathering” policy for border area incumbents. It could implement the technical and operational fixes utilized by Southern LINC that have enabled it to successfully operate in the 800 MHz band. It could require Nextel to take various steps to help eliminate its interference, such as reducing its power, using the funds offered to resolve interference problems on a case-by-case basis, or having Nextel vacate the 800 MHz band. The Commission should also consider technical rule modifications. An alternate solution would be a comprehensive overhaul of the U.S.’s bilateral agreements with Canada and Mexico to provide border area licensees spectral equality with the rest of the United States.

The Proposal Remains Flawed Because It Relies on 1.9 GHz Spectrum

The threshold issue of involving 1.9 GHz spectrum in this proceeding—including its legal problems and its unfortunate status as the “linchpin” of the entire plan—essentially renders the entire Consensus Plan a non-starter. The request runs afoul of the Communications Act’s competitive bidding requirements, the Commission’s spectrum allocation and licensing

procedures, and the Commission's policy of competitive neutrality. It also raises concerns regarding the use of the spectrum as part of the 800 MHz rebanding proposal. For example, the provisions contained in the Supplement cause concern regarding awarding the license to a questionable shell entity, the propriety of using spectrum as collateral, and the wisdom of potentially allowing the spectrum to lie fallow for several years. Adoption of the proposal would run afoul of the public interest and would likely be considered arbitrary and capricious agency action. Due to issues such as these and the "all or nothing" stance of the Consensus Parties regarding this aspect of their proposal, the Consensus Plan is a completely unviable proposition.

The Supplemental Plan Should Be Rejected Outright

Boeing's analysis of the 800 MHz Public Safety interference problem leads to the conclusion that a permanent 800 MHz interference resolution will ultimately require either the interference causers or the interference receivers (Public Safety) to leave the band.

If the Commission declines to require a group of licensees to leave the 800 MHz band, the Commission should adopt all possible measures to ensure that all 800 MHz interference problems are resolved in the border areas. For example, the Commission should renegotiate Canadian and Mexican 800 MHz bilateral agreements to ensure consistent solutions for the entire United States. The Commission should also require Nextel to make technical modifications to its 800 MHz operations to provide both immediate and long-term interference relief. Further, the Commission should adopt general technical modifications to its 800 MHz rules to alleviate harmful interference and steadfastly develop and adhere to comprehensive interference mitigation guidelines.

The Commission should give this proceeding appropriate direction by establishing an expert re-banding team to conduct a comprehensive and independent examination of the issue.

Such an examination would include the border areas as a primary focus of the issue's resolution.

The Commission should not attempt to build on the "tower of cards" that is the Consensus Plan.

The Consensus Plan, as amended, is neither an effective nor equitable proposal.

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COMMENTS OF THE BOEING COMPANY

The Boeing Company (“Boeing”), by its attorneys, hereby files these comments in response to the Commission’s *Public Notice* in the above-captioned proceeding.¹ Specifically, the Commission requested comment on the supplemental filing of the so-called “Consensus Parties” (the “Supplement” or “Supplemental Plan”).² As a licensee operating 800 MHz systems with channels that are both close to the Canadian border and outside the border region (*i.e.*,

¹ See *Wireless Telecommunications Bureau Seeks Comment on “Supplemental Comments of the Wireless Consensus Parties” Filed in the 800 MHz Public Safety Interference Proceeding*, Public Notice, WT Docket No. 02-55 DA 03-19 (rel. Jan. 3, 2003). See also *Improving Public Safety Communications in the 800 MHz Band; Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels*, Order Extending Time for Filing of Comments, WT Docket No. 02-55, DA 03-163 (rel. Jan. 16, 2003).

² See Supplemental Comments of the Consensus Parties, *Improving Public Safety Communications in the 800 MHz Band*, WT Docket No. 02-55 (filed Dec. 24, 2002) (“Supplement”).

below Line A),³ Boeing is uniquely qualified to respond to the infeasibility of the Supplemental Plan. Boeing appreciates the opportunity to provide its comments and reiterate its opposition to the “Consensus Plan,” originally and as revised, for the resolution of interference to Public Safety entities in the 800 MHz band.

I. INTRODUCTION

The Supplement includes a funding methodology, procedures for relocating spectrum incumbents, provisions for post-realignment interference protection, and a plan addressing the unique border area issues. Despite these supplemental provisions, the Consensus Plan ultimately fails for a multitude of reasons.

Boeing’s comments focus primarily on just two of these reasons. First, the proposed solution for the Canadian and Mexican border areas in general, and Canadian Border Region 5 in particular, is neither technically nor internationally feasible.⁴ Second, the threshold issue of involving 1.9 GHz spectrum in this proceeding—including its legal problems and its unfortunate status as the “linchpin” of the entire plan—essentially renders the entire Consensus Plan a non-starter. These problems, coupled with the other fundamental flaws in the Supplement, lead to the inevitable conclusion that the Consensus Plan must be rejected outright.

The Supplemental Plan is not the best alternative to resolving the 800 MHz Public Safety interference problem. As such, the Commission should not accept the Supplemental Plan in whole or in part. Either course of action would impose a fundamentally flawed solution on

³ Line A is an area approximately 100 km from the U.S./Canada border. *See* 47 C.F.R. § 90.7.

⁴ Boeing is an active participant in the Border Area Coalition, which is filing comments in this proceeding addressing the broader problems related to the proposed solutions for the Canadian and Mexican border areas.

Public Safety and other 800 MHz incumbent users. Instead, the Commission should focus on ensuring that the 800 MHz interference problem is completely and permanently resolved.

It should not be forgotten that the overriding objective of this proceeding has always been to ensure that Public Safety communications in the 800 MHz band are protected from harmful interference. As such, the vast majority of the interested parties in this proceeding want to implement a genuine Public Safety interference solution. Such parties accept that certain concessions are required and that there will be certain costs involved in any effective solution. For its part, Boeing is very willing to participate in an effective solution. It does not want its efforts to be wasted, however, on a solution that does not resolve 800 MHz interference permanently or that unfairly rewards some while causing unnecessary hardship to others.

II. THE TREATMENT OF THE BORDER AREAS IN THE CONSENSUS PLAN'S SUPPLEMENT IS FUNDAMENTALLY INADEQUATE

One of the primary objectives of the Consensus Plan's Supplement was to address rebanding issues unique to the Canadian and Mexican border areas. The Consensus Parties' proposed solution, however, fails to resolve 800 MHz Public Safety interference in the border areas, and, at the same time, inequitably harms B/ILT incumbents.

Conceptually, the Supplement solves the "easy" problem first (*i.e.*, rebanding heartland America) and later attempts to retrofit piecemeal solutions to the more difficult problems of the border areas into the initial framework. A better approach would be to develop a solution that works in the border areas and then adapt that approach for the rest of the United States. In developing such a solution, Boeing concurs with the Border Area Coalition's conclusion that the existing bilateral agreements with Canada and Mexico will need to be renegotiated as an initial

matter in order for the border area 800 MHz solution to be consistent and comparable to the 800 MHz solution for the rest of the United States.

The Border Area Coalition identified several problems with the Supplement, including:

- The proposed solution contains inequitable and disproportionate spectrum allocations;
- The border area solution would create new “double border” coordination problems;
- Renegotiation of bilateral agreements with Canada and Mexico is needed to provide a truly adequate solution that avoids a double border;
- The proposed solution provides for inadequate border area guard bands;
- The proposal reduces critical border area interoperability;
- The proposal’s technical power requirements are unworkable due to the lack of equipment or the need for fundamental system redesign;
- The proposal’s funding provisions are inadequate to address anticipated border region costs; and
- The proposed implementation timeframes are overly optimistic.

Boeing concurs with the comments filed today by the Border Area Coalition, and takes this opportunity to provide detailed information regarding its concerns as an 800 MHz licensee in Border Region 5.⁵

A. The Border Areas Are a Significant Component of the United States The Unique Need of Which Deserve Considerable Attention

The Canadian and Mexican border areas are vital to both national security and the nation’s economy. National security demands require that Public Safety entities in the border areas have sufficient spectrum to perform their critical tasks, both with respect to

⁵ Border Region 5 includes the Seattle and Puget Sound, Washington region where Boeing is a user of 800 MHz B/ILT channels for internal industrial communications and mutual aid to local Public Safety entities.

communications between U.S. entities and between the United States and Public Safety entities in Canada and Mexico. In terms of the U.S. economy, the border area includes 17 states. It is estimated that the border area affects 13.5 percent of the U.S. economy.⁶ Considering the “double border” implicated in the Supplement, the overall economic impact of the border regions could be upwards of 27 percent of the U.S. economy.

Due to bilateral agreements with Canada and Mexico, 800 MHz licensees in the border areas of the United States have access to only half of the available spectrum channels. Special technical and operational limitations also apply. As such, the border areas have unique issues that must be addressed in any comprehensive solution to the 800 MHz Public Safety interference problem.

B. The Consensus Plan’s Supplement is Unworkable in Border Region 5

The Consensus Plan’s supplemental solution states that “[n]o current primary border area licensee will lose any channels due to realignment.”⁷ Under the proposal, however, the overall number of channels allocated for B/ILT licensees in the border area is significantly reduced, and the quality of the channels offered to B/ILT licensees under the proposal is also reduced. The Consensus Parties note that their supplemental “reallocation proposal is not based on the original allocations of spectrum, but on a licensee’s current usage of spectrum taking into account years of intercategory sharing, etc.” and encourages secondary use of Canadian channels.⁸ This runs

⁶ Analysis of U.S. Census Bureau and Department of Commerce data indicates that the border region impacts approximately 13.5 percent of all U.S. economic activity as measured by annual payroll figures.

⁷ See Supplement at iv.

⁸ See *id.* at Appendix G-3.

afoul of the original Consensus Plan's pledge that "existing proportionate...allocations...will be maintained."⁹ Such blasé treatment of the Canadian border area is unacceptable. B/ILT licensees in the border areas should be provided proportionate spectrum in terms of both quantity and quality. The following is a discussion of these and other problems with the Consensus Parties' Supplement, including critical "double border" coordination problems and secondary use concerns, that render the Supplement unworkable for the border areas.

1. The Region 5 Proposal Results in an Inequitable Channel Redistribution

Boeing is particularly disturbed by the Consensus Parties' proposed manipulation of channel allocations in the border areas in their Supplemental Plan. The numbers provided in the Supplement simply do not add up to a complete, effective, and fair solution. In Border Region 5, for example, the channel allocations currently, and under the Supplement, are as follows:

	Current Channels	Proposed Channels	Net Change
Public Safety	145	150	= 5 Gain
SMR	95	144 (Plus shared use of 66)	> 49 Gain
B/ILT	120	Shared Use of 66 ¹⁰	> 54 Loss

Boeing questions the equity of the Region 5 proposal. First, one wonders why Specialized Mobile Radio (SMR) operators (*e.g.*, Nextel) are allocated more than 49 new

⁹ See Reply Comments of the Private Wireless Coalition, Nextel, and Public Safety Organizations, *Improving Public Safety Communications in the 800 MHz Band*, WT Docket No. 02-55 at 16 (filed Aug. 7, 2002).

¹⁰ B/ILT incumbents would be limited to part of the 66 channels in the Mixed Use High Site Business/ILT/SMR band.

channels versus Public Safety's five when the overriding purpose of this proceeding is to reduce Public Safety interference and provide additional spectrum for Public Safety communications where possible. Second, the Region 5 rebanding proposal calls for a reduction of B/ILT channels by at least 54 channels. Under the Supplement, B/ILT licensees would have access to only 1.65 MHz of contiguous spectrum (66 channels x 25 kHz per channel x 1 MHz per 1000 kHz = 1.65 MHz). Such a reduction is patently inequitable and is insufficient for current—let alone future—B/ILT operations.

For example, in the Puget Sound area, Boeing currently utilizes 50 of the 66 channels that would be available for B/ILT use under the Supplement. Two other Puget Sound area licensees utilize 41 and 16 channels, respectively. An unavoidable result of the channel re-allocation scheme proposed in the Supplement is that B/ILT expansion will not be feasible for the foreseeable future. By shoe-horning Region 5 incumbents into 1.65 MHz of spectrum without provision for any unused or additional channels, there is no room to expand existing systems, no room for new licensees, and no room to fix channel spacing related technical or interference problems. These problems are exacerbated by other provisions of the proposal prohibiting future B/ILT access to other channels.¹¹

This phenomenon is not unique to Border Region 5. The Border Area Coalition analyzed the Supplement with regard to four border areas, and discovered that SMR consistently gained a disproportionate number of channels as compared to Public Safety and B/ILT uses. For example, in the Tucson, Arizona/Mexico border area, B/ILT and high site SMR users would

¹¹ For example, the Supplement proposes that only Public Safety licensees be able to access channels vacated by Nextel for a period of five years after NPSPAC relocations are complete. *See* Supplement at 12. The proposal also contemplates an open-ended freeze on most new B/ILT and SMR licensing and license modification applications on channels 121-400. *See id.* at 26.

have *no* viable channels and non-National Public Safety Planning Advisory Committee (“NPSPAC”) Public Safety users would lose 13 viable channels, but Nextel would gain 110 channels.¹² In the Yuma, Arizona/Mexico border area, non-NPSPAC Public Safety would lose two channels and high site SMR would lose 60 channels, whereas Nextel would gain 62 channels.¹³ In the San Diego, California/Mexico border area, NPSPAC users would lose 63 channels and B/ILT/SMR users would lose 133 channels, but CMRS users would gain 163 channels.¹⁴

This “shell game” aspect of the proposal alone suggests that a primary motivation behind the Supplement for the border areas is the advancement of Nextel’s business interests instead of attaining the proper goals of reducing interference and increasing Public Safety spectrum allocations. One wonders if Nextel is intentionally attempting to constrain B/ILT licensees so that, if they need new networks and services in the future, they will have little choice but to purchase them from Nextel. The Commission should not endorse such a biased proposal.

2. The Channels Allocated to B/ILT Use In Region 5 Are Not of Comparable Quality to Those Currently Available

In addition to the proposed reduction in overall channels available for B/ILT use in Border Region 5, the Supplemental Plan does not assign B/ILT spectrum of comparable quality to that currently available. Specifically, the channels assigned to B/ILT would not provide adequate spectrum for the required 250 kHz channel separation currently used on 800 MHz

¹² See Comments of the Border Area Coalition, *Improving Public Safety Communications in the 800 MHz Band*, WT Docket No. 02-55 at Exhibit B (filed Feb. 10, 2003) (“Border Area Coalition Comments”).

¹³ *Id.*

¹⁴ See *id.* at Exhibit A.

systems such as Boeing's. For Boeing to maintain 10-channel systems with Motorola's recommended 250 kHz channel spacing, a total of 2.5 MHz of B/ILT spectrum would be required.¹⁵ As discussed above, the Supplemental Plan provides B/ILT with only 1.65 MHz of spectrum in Border Region 5. One alternative that would enable B/ILT licensees to operate on the channel allocations proposed would involve purchasing extensive amounts of new equipment (such as transmitter combiners, tower space, and antennas), at a minimum, and may require building new sites to maintain existing coverage areas. Boeing believes that the procurement of such new equipment alone would be expensive.

3. The Consensus Plan's Supplement Provides For Inadequate Guard Bands in the Border Areas

The Supplement does not contain adequate provisions for border area guard bands. In the heartland, the plan provides for 2 MHz of paired spectrum at 859-861/814-816 MHz for guard band protection.¹⁶ The plan also provides at least a .75 MHz guard band for the Mexican border areas.¹⁷ In contrast, the plan does not contain *any provision whatsoever* for guard bands in any of the Canadian border regions.¹⁸ Inadequate or non-existent guard bands will lead to increased occurrences of harmful interference to Public Safety and B/ILT operations and renders the B/ILT spectrum allocation in areas like Region 5 disadvantaged with respect to the rest of the United States. While the primary purpose of this proceeding is to eliminate Public Safety interference in

¹⁵ See Celwave, Division of Radio Frequency Systems, Instruction Manual, T-JD800-4T (Serial No. 388739-001), 1007 E. University, Phoenix, Arizona 85034.

¹⁶ See Supplement at 10.

¹⁷ See *id.* at Appendix G-1.

¹⁸ See *id.* at Appendix G-1 and G-2.

the 800 MHz band overall, the Commission should not tolerate specific provisions of the Supplement that have the real potential of dramatically *increasing* harmful interference to border area incumbents.

4. The Consensus Plan's Supplement Creates a "Double Border" Problem for Border Area Licensees

The Supplement would create a new "double border" coordination problem for licensees in all border areas. For example, licensees in Border Region 5 would need to coordinate different spectrum uses between Canada and the border region, and between the border region and heartland America (below Line A). More specifically, B/ILT users above Line A would be required to utilize the 66 contiguous channels at 862.25-863.9/817.25-818.9 MHz Mixed Use High Site Business/ILT/SMR band.¹⁹ Due to the reallocation of channel assignments below Line A to Low Site/Low Power SMR licensees, Border Region 5 B/ILT licensees above Line A will be forced to share channels with SMR licensees using the same channels just below Line A. Region 5 incumbents would, therefore, not have full access to the proposed 66 channels and, instead, would be forced to enter into additional coordination efforts with these non-B/ILT licensees. Beyond the additional coordination requirements, there is also the likelihood of additional harmful interference to B/ILT users from such cellularized uses directly below Line A.

Further, the B/ILT channels proposed for Border Region 5 and heartland America present a serious problem for B/ILT licensees such as Boeing that maintain 800 MHz simulcast systems for operations both above and below Line A.²⁰ The proposal channel allocations

¹⁹ See *id.* at Appendix G-9.

²⁰ More specifically, the proposal would require B/ILT licensees below Line A to operate at 854-861/809-816 MHz but B/ILT licensees above Line A to operate at 862.25-863.9/817.25-818.9 MHz.

contained in the Supplement would disrupt simulcast systems designed and coordinated to work seamlessly both above and below Line A. The proposal would effectively eliminate the ability to simulcast and increase the spectrum requirements for similar functionality.

This problem is not unique to Border Region 5. The Border Area Coalition has identified the double border issue as magnifying problems throughout the Canadian and Mexican border areas. While double coordination has been required in limited circumstances in the past, the Supplemental Plan would invalidate existing agreements and require extensive new coordination efforts. The double border issue has been identified as particularly problematic for Public Safety licensees. Specifically, it will require Public Safety licensees to coordinate with new non-Public Safety heartland licensees. Double border coordination is an entirely new concept for NPSPAC users and would undermine the intended purpose of a nationwide harmonized NPSPAC spectrum allocation.²¹

5. The Consensus Parties' Reliance on Secondary Use in its Supplement is Not Adequate to Protect 800 MHz Operations in the Border Regions

The Supplement notes that “secondary use of Canadian primary channels by United States licensees would continue to be permitted (and encouraged) in the Border Area.”²² Specific reference is made to Boeing’s secondary use of licenses in the Canadian border region of Washington state.²³ Although Boeing wishes to maintain its current secondary uses in the

²¹ See Border Area Coalition Comments at 4-5.

²² See Supplement at Appendix G-3.

²³ See *id.* at 37 n. 63.

Canadian border region, reliance on secondary operations cannot be a mainstay of the Consensus Parties' border area solution.

Boeing's 800 MHz communications are critical to both its enhanced productivity and the safety of its employees. As discussed in previous comments, B/ILT users require communications that are reliable and durable in order to perform their essential functions, including internal safety functions. Such critical internal business communications should not be jeopardized or compromised by the potential for harmful third party interference.²⁴ Boeing's use of Canadian spectrum under secondary status is by no means an ideal situation. Currently, Boeing uses 800 MHz channels assigned to primary use by Canada as a direct result of the dire spectrum shortage in the region. Implementation of the Supplemental Plan will both make the B/ILT spectrum shortage in Border Region 5 worse and increase the likelihood of harmful interference to Boeing's current secondary operations by virtue of both the proposed rebanding and the encouraged increase in use of the primary Canadian allocations.

C. The Power Levels Prescribed in the Supplement are Infeasible

The Supplement calls for significantly increased power levels after rebanding in order to be provided relief from any future intermodulation or out-of-band ("OOB") emissions interference from CMRS systems.²⁵ For example, the Supplement calls for increasing power levels received at ground level by as much as 33 dB (up from the -98dBm baseline) for both thresholds at 860.5 to 861.0 MHz to attain -65 dBm at ground level (from the -98 dBm

²⁴ See Initial Comments of The Boeing Company, *Improving Public Safety Communications in the 800 MHz Band*, WT Docket No. 02-55 at 17-18 (filed May 6, 2002).

²⁵ See Supplement at 41-42 and Appendix F.

baseline).²⁶ Such provisions would prove technically prohibitive and would likely violate existing bilateral agreements.²⁷

Existing sites could not provide power increases of such a magnitude given transmitter power and antenna gain limitations. Realignment B/ILT sites to increase relative signal levels would essentially require B/ILT licensees to transform their systems into cellular-type low-site systems. This would necessitate a wholesale re-engineering of existing systems; acquisition of new spectrum (that, as discussed above, will probably not be available) along with related facilities; and the purchase of new, expensive equipment.

Boeing is unaware of any available equipment that could increase transmitter power or antenna gains sufficient to meet the 33 dB threshold from existing high site Noise Limited Systems (“NLS”) required by the Supplement without adding more sites and using more channels. Even if such equipment existed, the increased power levels would significantly reduce Boeing’s current channel re-use capabilities because of the increased likelihood of interference. The increased power levels would also lead to additional co-channel and adjacent channel interference. Finally, the increased power levels called for in the Supplement would have the potential to violate bilateral agreements with Canada because the increased U.S. signal levels at the borders would exceed the currently allowable limits.

²⁶ *Id.* at Appendix F-3.

²⁷ As a threshold matter, it is unclear whether the proposal’s interference mitigation provisions even apply to the border areas and their unique rebanding issues. For example, Region 5 B/ILT operations at 862.25-863.9 MHz under the Supplement would be considered cellular operations for the purposes of Appendix F interference mitigation requirements. *See* Border Area Coalition Comments at 20-22 (discussing the technical problems with Appendix F as it pertains to border area operations). Although sufficient interference mitigation procedures are needed for the border areas, if the proposed procedures in the Supplement applied, they would not be feasible in Border Region 5.

III. BORDER AREA ALTERNATIVES TO THE SUPPLEMENTAL PLAN EXIST AND ARE TECHNICALLY FEASIBLE

As acknowledged in the Border Area Coalition's comments, the Commission could take several steps to remedy border area interference within the context of an 800 MHz rebanding proposal. Generally, the Commission could explore the feasibility of initiating a "grandfathering" policy for border area incumbents similar to the concession offered to Southern LINC in the Supplement.²⁸ The Commission could also explore implementing the technical and operational fixes utilized by Southern LINC that have enabled it to successfully operate in the 800 MHz band without causing harmful interference to Public Safety communications. Alternatively, the Commission could require Nextel to take various steps to help resolve the interference it is causing, including reducing its power, using the funds offered in the Supplemental Plan to resolve interference problems on a case-by-case basis,²⁹ or by vacating the 800 MHz band entirely. These measures would avoid a wholesale border area rebanding that is overly disruptive, costly, and unnecessary to licensees that have not caused harmful interference. The Commission should also consider certain technical rule modifications to mitigate the border region issues, including: (1) requiring CMRS transmitters to be installed pursuant to original equipment manufacturer ("OEM") recommendations using combiners with band-pass/tunable cavities or filters, (2) eliminating the use of wideband hybrid combiners in areas of known interference problems, (3) requiring low-site installations to be coordinated and documented for

²⁸ See Supplement at 44-46.

²⁹ See also Comments of SBT, *Improving Public Safety Communications in the 800 MHz Band*, WT Docket No. 02-55 at 10 (filed Jan. 10, 2003).

interference investigation assistance, and (4) adopting OOB emissions specifications for low-site transmitters.³⁰

Specific to Border Region 5, Boeing believes that the only technically feasible solution for eliminating 800 MHz Public Safety interference in the context of a rebanding scenario would require interfering sites to reduce transmitter power levels. Interfering sites would also need to employ remote receive locations or bi-directional amplifiers (“BDAs”) and radiating coax for stubborn in-building and below-ground locations in a manner similar to the technical measures currently employed by Public Safety and B/ILT licensees in the region. In many cases where signal compatibility exists, these BDAs could be shared systems between Public Safety, B/ILT, and CMRS operators.

As an alternative to the various technical fixes that would be needed to resolve 800 MHz Public Safety interference in the border areas, an alternate solution would be a comprehensive and consistent overhaul of the U.S.’s bilateral agreements with Canada and Mexico to provide border area licensees spectral equality with the rest of the United States.

IV. THE CONSENSUS PLAN REMAINS FUNDAMENTALLY FLAWED BECAUSE IT INAPPROPRIATELY RELIES ON THE REALLOCATION OF 1.9 GHz SPECTRUM

A fundamental defect of the Consensus Plan is its inclusion of a new 1.9 GHz spectrum allocation as the linchpin of the entire proposal. The Supplement is clear that the funding commitment—and, therefore, the plan itself—is absolutely conditioned on the Commission’s

³⁰ See Border Area Coalition Comments at 18-19. Any technical modifications or interference protection measures would also need to be vigorously enforced by the Commission.

granting Nextel a 10 MHz nationwide CMRS license at 1910-1915/1990-1995 MHz.³¹ This aspect of the proposal, however, has several fundamental problems. For example, the request runs afoul of the Communications Act's competitive bidding requirements, the Commission's spectrum allocation and licensing procedures, and the Commission's policy of competitive neutrality. The Supplement also raises concerns regarding the use of the requested spectrum as collateral for Nextel's funding obligation. Due to issues such as these and the "all or nothing" stance of the Consensus Parties, the Consensus Plan is rendered a completely unviable proposition.

A. The Request for 1.9 GHz Spectrum Is Procedurally Inappropriate

While the Supplement claims to "achieve the Commission's goals in this proceeding," and meet "all of the...public policy objectives in this proceeding," a recurring theme is that it clearly does not consider the Commission's statutory and procedural limitations in implementing the proposal.³² The Supplement requests the reallocation and reassignment of spectrum that currently is allocated to non-CMRS uses (specifically, Unlicensed Personal Communications Services ("UPCS") at 1910-1915 MHz).³³ The Consensus Plan's *ad hoc* 1.9 GHz request cannot be accommodated as part of this proceeding.

³¹ See Supplement at 4 n. 6.

³² See *id.* at 3 and ii.

³³ Boeing acknowledges the Commission's recent order in the *3G Proceeding* reallocating 2 GHz MSS spectrum at 1990-2000 MHz to the fixed and mobile wireless services. See *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3G for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, Third Report and Order, Third Notice of Proposed Rulemaking, and Second Memorandum Opinion and Order, ET Docket No. 00-258, FCC 03-16 (rel. Feb. 10, 2003). Boeing has consistently defended the 2 GHz MSS allocation—including 1.9 GHz growth spectrum—as being in the public interest. It is currently

Boeing's previous comments addressed various issues regarding the instant request for spectrum. Nextel is attempting through this proceeding to obtain an unprecedented and very likely unlawful spectrum grab. Nextel could choose from various options to obtain additional spectrum (*e.g.*, it could: (1) seek additional spectrum recently made available as part of the 3G *Proceeding* when it is allocated and auctioned, (2) seek reallocation of the specific spectrum it wants through a rulemaking proceeding for that particular purpose where all interested parties have equal opportunity to obtain the spectrum, or (3) obtain additional spectrum through license assignment or merger). Instead, it requests 10 MHz of contiguous spectrum in exchange for fixing a problem that it admittedly has caused³⁴ and random piece parts of its less attractive (and likely over-valued) spectrum holdings. Granting Nextel 1.9 GHz spectrum, which has nothing to do with the 800 MHz interference problem or Public Safety spectrum needs, in this proceeding would clearly constitute arbitrary and capricious agency action.

The Commission would also face potential Administrative Procedure Act ("APA") challenges or other procedural hurdles regarding the requested licensing scheme involved with the proposed 1.9 GHz spectrum reallocation, if adopted. Specifically, the Supplement calls for the Commission to grant Nextel a 1.9 GHz license "upon the effective date of the Report and Order."³⁵ This would circumvent many of the Commission's established licensing procedures

unknown whether the reallocation order will be challenged and, if so, what the outcome of such a challenge(s) will be. Regardless of the recent MSS spectrum reallocation, the Supplement still fails by virtue of its 1.9 GHz spectrum request.

³⁴ See Nextel Communications, Inc., *Promoting Public Safety Communications-Realigning the 800 MHz Land Mobile Radio Band to Rectify Commercial Mobile Radio-Public Safety Interference and Allocate Additional Spectrum to Meet Critical Public Safety Needs*, White Paper at 5 (filed Nov. 21, 2001).

³⁵ See Supplement at 8.

(e.g., filing an FCC Form 601 application, issuance of an “accepted for filing” Public Notice, and a Public Notice regarding Commission grant of the license) and preempt interested parties from petitioning to deny the license grant—a right expressly provided for in the Commission’s rules.³⁶ The Supplement would also give an escrow agent/trustee holding the 1.9 GHz licenses the “power to sell the assets” if Nextel fails to meet its payment obligations under the plan.³⁷ This potentially runs afoul of the Commission’s prohibition on license trafficking and selling bare licenses.³⁸ Nextel should not be permitted to turn the Commission’s spectrum allocation and licensing policies on their heads. As Boeing discussed in its previous comments, the Commission and the industry are under no obligation to make Nextel “whole” by giving it 10 MHz of 1.9 GHz spectrum.³⁹

³⁶ See, e.g., 47 C.F.R. §§ 1.913 (requiring the electronic filing of an FCC Form 601 for new authorizations); 1.915 (“for all Wireless Radio Services, station licenses...and waiver requests associated with [them] shall be granted only upon an application filed pursuant to §§ 1.913 through 1.917.”); 1.933 (providing for public notice prior to grant of an initial license); 1.939 (allowing any interested party to petition to deny an application that has been listed in a Public Notice as accepted for filing); 1.945 (providing that no application for a non-auctionable license will be granted prior to 31 days after Public Notice of its acceptance for filing).

³⁷ See Supplement at 8.

³⁸ See, e.g., 47 U.S.C. §§ 301, 304; 47 C.F.R. § 24.843 (prohibiting the transfer or assignment of certain broadband PCS licenses).

³⁹ See, e.g., Reply Comments of the Boeing Company, *Improving Public Safety Communications in the 800 MHz Band*, WT Docket No. 02-55 at 9 (filed Aug. 7, 2002).

B. The Proposed 1.9 GHz Spectrum Reallocation Runs Afoul of the Communications Act and the Commission's Policy Objectives

The 1.9 GHz spectrum request also runs afoul of the competitive bidding provisions of the Communications Act⁴⁰ and the Commission's principle of competitive parity. The Communications Act clearly requires the Commission to auction new spectrum made available for terrestrial wireless services.⁴¹ Regulatory gyrations to avoid mutual exclusivity and the obligation to auction would be subject to challenge as arbitrary and capricious and otherwise contrary to law. Further, the policy goal of competitive parity requires that the Commission not act in an unduly preferential manner toward any individual entity.⁴² Awarding the prime 1.9 GHz spectrum to Nextel in the *ad hoc* manner requested would run afoul of the Commission's policy of competitive parity.

C. Other Questionable Aspects of the 1.9 GHz Scheme Raise Questions Regarding the Propriety of the Provisions Contained in the Supplement

There are other potential improprieties with the provisions in the Supplement relating to the 1.9 GHz spectrum. For example, the Supplement contemplates award of the license to a shell

⁴⁰ See 47 U.S.C. § 309(j).

⁴¹ See *id.* See also SBT Comments at 4. SBT notes that Section 309(j) does not provide authority to grant a license based on voluntary commitment to place money into a privately administered account and that failure to auction such spectrum would run afoul of the Commission's obligation to return to the U.S. Treasury the value of the licenses.

⁴² See, e.g., *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 13 FCC Rcd 24012, 24013 (1998) (noting, "Congress made clear that the 1996 Act is...designed to ensure competition in all telecommunications markets"); *Policy and Rules Concerning Rates for Dominant Carriers*, Second Report and Order, 5 FCC Rcd 6786, 6812 (1991); *Policy and Rules Concerning Rates for Dominant Carriers*, Report and Order and Second Further Notice of Proposed Rulemaking, 4 FCC Rcd 2873, 3187 (1989).

entity.⁴³ Although the newly formed corporate entity(ies) will hold the license, Nextel would retain the right to “use the pledged spectrum during the duration of the Plan,” and remove the spectrum from the shell entity at its leisure.⁴⁴ This gives rise to fundamental issues regarding ownership and control of licenses under the Commission’s rules and the Communications Act.⁴⁵ The holding of valuable spectrum in specious shell entities in this circumstance may very well be contrary to the public interest.

The Supplement raises serious concerns regarding the legality and propriety of using any spectrum, especially the 1.9 GHz spectrum, as collateral for Nextel’s performance of its obligations under the Consensus Plan. This provision would enable Nextel to potentially benefit immediately from the spectrum on “credit” without concurrently being required to fully perform its end of the “bargain.” Commission radio licenses generally cannot be used as collateral for loans.⁴⁶ This raises concerns regarding Nextel’s actual ability to follow through on its funding commitment of \$850 million. Using spectrum as collateral does not promote the efficient use of spectrum. Essentially held in escrow, the 1.9 GHz spectrum may lie fallow for the duration of the implementation of the rebanding. The spectrum would also be ultimately subject to Nextel default, further delaying its gainful use if the Commission were forced to reclaim the spectrum and re-auction it (which may be impossible in light of the Supreme Court’s recent *NextWave*

⁴³ See Supplement at 8 (“The assets to be held in the corporate entity(ies) will be the 10 MHz of replacement spectrum in the 1.9 GHz band for which Nextel will be granted licenses upon the effective date of the Report and Order.”).

⁴⁴ See *id.*

⁴⁵ See 47 U.S.C. § 310.

⁴⁶ See *Amendment of the Commission's Rules to Establish New Personal Communications Services*, Second Report and Order, 8 FCC Rcd 7700, 7826 (1993).

decision).⁴⁷ Enabling Nextel to use spectrum as collateral for funding an 800 MHz rebanding plan may not provide Nextel with sufficient motivation to expeditiously and effectively implement the rebanding. Such potentially cavalier use of the spectrum should not be permitted.

If the Commission grants the 1.9 GHz spectrum request, there will very likely be significant regulatory and judicial challenges to the decision. If the Commission appropriately rejects (or even modifies) the request, however, the entire Consensus Plan crumbles under its own “all or nothing” threat.⁴⁸ Either way, the 1.9 GHz spectrum aspect of the Consensus Plan will prohibitively delay or destroy the proposal.

V. THE SUPPLEMENTAL PLAN IS OTHERWISE UNWORKABLE AND UNACCEPTABLE

In addition to the 1.9 GHz and border area issues discussed above, the Supplement has several other shortcomings, including: (1) the potential for multiple B/ILT relocations (some potentially unfunded), (2) a questionable funding mechanism, and (3) the alarming lack of Commission oversight and control over the proposed process. Such defects preempt the blanket adoption of the Supplement and should alert the Commission to the need for extensive oversight and investigation into better alternatives.

⁴⁷ See *FCC v. Nextwave Personal Communications, Inc.*, ___ U.S. ___ (2003) (No. 01-653, Jan. 27, 2003) (holding that the Bankruptcy Code prohibited Commission cancellation of bankrupt carrier’s auctioned licenses upon failure to make required installment payments).

⁴⁸ See, e.g., Supplement at 4 (“Any material modification of the Consensus Plan would eliminate the voluntary commitments of an cooperation among the affected licensees...”). *Id.* at n. 6 and 6 (“Nextel’s funding offer was and is expressly conditioned on the Commission adopting the comprehensive Consensus Plan...including granting Nextel a replacement 10 MHz nationwide CMRS license at 1910-1915/1990-1995 GHz [sic]...”). *Id.* at 13 (“The Consensus Plan calls for Nextel to be made whole on a spectral basis by the Commission assigning Nextel...a nationwide license for 10 MHz of paired spectrum at 1910-1915/1990-1995 MHz for CMRS services.”).

A. The Supplemental Proposal Would Lead to Unnecessary and Multiple Relocations

The Consensus Plan involves a wholesale rebanding of 800 MHz and the relocation of a majority of 800 MHz licensees, even though a majority of incumbent licensees have neither caused nor received interference. The Commission should strive to reach a solution that does not mandate such a ubiquitous relocation effort. Such rebanding is unnecessarily burdensome and costly, especially where conversion risks (*e.g.*, experiencing harmful interference after relocation where there was no problem before or technical Public Safety relocation problems where safety of life or other critical communications are involved) can be significant. Risks related to conversion are multiplied when dealing with the need for multiple relocations.

The potential for multiple relocations is especially disconcerting for B/ILT incumbents seeking to relocate from the guard bands. For instance, Phase I of the Supplemental Plan would generally require non-Public Safety licensees to relocate to the guard bands and accept higher interference thresholds.⁴⁹ Licensees thereafter wishing to relocate out of the guard bands would be forced to do so at their own expense. It is likely that many B/ILT licensees would want to relocate out of the guard bands when possible to reduce the likelihood of harmful interference. B/ILT licensees should not be forced to accept higher levels of interference or partially fund their relocation within the 800 MHz band. This aspect of the Consensus Plan provides inappropriate incentive for B/ILT licensees to migrate to the 900 MHz band.

⁴⁹ *See id.* at 17-18, Appendix C-20.

B. The Supplement Contains Questionable and Likely Inadequate Funding Provisions

Boeing is also very concerned regarding the financial provisions contained in the Supplement. As an initial matter, the \$850 million cap on funding *all* of the activities related to the rebanding—and the limitation on non-Public Safety funding to \$150 million⁵⁰ —is disconcerting for several reasons. Matters discussed in more detail below include concerns regarding underfunding, the potential to refuse valid relocation costs, and concerns regarding the actual capitalization of the proposal.

With regard to non-Public Safety relocation funding, evidence indicates that relocation costs will *overwhelmingly* exceed the proposed funding pool. In its recent comments, SBT observed that, although only 18 commenters provided estimated relocation costs, their anticipated cumulative relocation costs totaled over \$500 million.⁵¹ Given the number of non-Public Safety incumbents not providing relocation cost projections and the inflexibility of funding provisions contained in the Supplement, it is likely that the actual cost of non-Public Safety relocation will significantly exceed the proposed funding pool. This raises the probability that only a partial solution will be funded. Far from mitigating the 800 MHz interference problems, a partially implemented solution could actually exacerbate interference problems. Boeing agrees with SBT and other commenters that an incomplete or partial rebanding would be worse than no solution at all.⁵² A rebanding should not be attempted without confidence that it

⁵⁰ See *id.* at 5.

⁵¹ See SBT Comments at 11-12.

⁵² See *id.* at 12. See also Border Area Coalition comments at 12-13.

can be completed. Relocating entities need complete assurance that their related expenses will be paid in full for a rebanding plan to succeed.

Second, Boeing is concerned that its specific relocation costs will not be fully addressed. The Supplement contains cost considerations primarily related to: (1) labor to physically retune equipment, (2) the cost of critical elements necessary to modify certain types of Motorola systems, (3) additional or improved combiners, (4) replacement of radios that cannot be retuned, and (5) loaner equipment.⁵³ The Supplement does not clearly contemplate other costs that would be incurred by licensees in Boeing's position that would have to add additional sites to existing systems to accommodate the proposal's reduced channel spacing, new equipment to accommodate increased power requirements, and associated costs of such equipment, including site leases, *etc.* Although Appendix C of the Supplement contemplates compensation for "comparable facilities" from the perspective of the end user,⁵⁴ Boeing is concerned that the Relocation Coordination Committee ("RCC"), with its apparently limitless discretion, will not acknowledge these requirements and will essentially require private entities to foot large portions of their rebanding costs.

⁵³ See Supplement at Appendix A-2-A-3.

⁵⁴ See *id.* at Appendix C-2-C-4. The Supplement provides that "[r]eplacement channels need not have the same channel spacing as current frequencies, as long as the relocation plan meets the test of comparable facilities herein, and the incumbent licensee is compensated (if eligible) for the cost of additional antenna and/or combiner charges required to make the system operate effectively with the new channel spacing." *Id.* at Appendix C-3. Even if such additional costs such as rents are reimbursable, they are only covered for two years from the closing date of a voluntary relocation agreement. *Id.* at C-4.

Third, in addition to seeking to fund the proposal via assets with questionable values in lieu of cash,⁵⁵ Nextel's actual cash funding commitment is inadequate. Specifically, the Supplement proposes an impermissibly low initial capitalization of \$25 million.⁵⁶ In light of the other questionable funding mechanisms proposed in the Supplement (*e.g.*, use of spectrum as collateral, vague recapitalization provisions) it may be illusory to believe that anything more than the original \$25 million will ever be provided. Boeing encourages the Commission to conduct or arrange for an independent analysis of the costs of a comprehensive 800 MHz solution prior to implementing any plan and require Nextel to maintain commercially reasonable cash reserves in appropriate entities to fund the relocation.

C. The Supplement Does Not Make Adequate Provision for Transparency and Much-Needed Commission Involvement

Boeing is concerned regarding the composition, authority, and prospective activities of the RCC, the Phase I Planning Committee, and the lack of significant Commission involvement and oversight in every aspect of the implementation of the proposed solution. There should be equal and fair representation of the various interests (including private licensees) on the RCC, its oversight board, and any implementation committees. All affected industry segments should be adequately represented in the planning and implementation processes of any 800 MHz solution. Commission involvement (and veto power) should also be a fundamental aspect of any related effort.

⁵⁵ *See id.* at 8. Nextel proposes to “fund” the escrow account with the 1.9 GHz and its 700 MHz guard band licenses. It claims that the guard band licenses are worth what Nextel paid for them at auction. Given the state of the economy and as seen in the recent Auction 35 problems, it is very unlikely that the 700 MHz guard band licenses are worth what Nextel paid at auction.

⁵⁶ *See id.* at 7.

The Supplement, by virtue of the composition of the RCC and the Phase 1 Planning Committee, creates a scenario whereby every Nextel/Consensus Party position will invariably prevail. Because three of the five RCC members and two of the three Phase I Planning Committee coordinators will be either Nextel or Public Safety representatives, the B/ILT position is likely to lose every time.⁵⁷ To maintain objectivity and fairness in the process, it is essential to have independent committees with balanced representation and significant Commission input and involvement in every step of the process.

Importantly, there should also be an adequate and transparent appeals process. The Supplement would empower the RCC to review and approve relocation reimbursements.⁵⁸ It also would empower the RCC to establish an “arbitration panel” to resolve relocation disputes.⁵⁹ Such disputes may relate only to cost and timing issues.⁶⁰ The only opportunity for Commission involvement in a contested matter is to determine whether replacement frequencies meet the definition of “comparable facilities.”⁶¹ Boeing appreciates the need to implement any 800 MHz interference solution in an expeditious manner, but due process and general considerations of fairness cannot be compromised by the desire for swift implementation.

⁵⁷ *See id.* at 15, 18.

⁵⁸ *See id.* at Appendix C-5.

⁵⁹ *See id.* at 22.

⁶⁰ *See id.* at Appendix C-19.

⁶¹ *See id.* at Appendix C-22.

VI. PROPOSED COMMISSION ACTION TO REMEDY THE 800 MHz INTERFERENCE PROBLEM

The Commission should take several steps to give this proceeding appropriate direction before providing it any momentum. For example, the Commission should establish an expert re-banding team (possibly funded by Nextel) to fully and impartially examine the issue and the available options or generate new options. Many more engineering details must be identified, especially with respect to the border areas. A comprehensive examination of the issue would involve an independent valuation of the costs involved and the value of the spectrum Nextel proposes to use as collateral. A comprehensive examination would also include border area issues as a primary focus of the issue's resolution instead of as an afterthought.

Boeing's analysis of the 800 MHz Public Safety interference problem leads to the conclusion that a permanent 800 MHz interference resolution will require either the interference causers or the interference receivers (Public Safety) to leave the band. In earlier comments filed in this proceeding, Boeing advocated moving 800 MHz Public Safety incumbents to the upper 700 MHz band.⁶² Even considering that it would be very expensive to relocate an entire class of licensees to 700 MHz, Boeing still believes that this would be an excellent, long-term, and comprehensive solution to the 800 MHz Public Safety interference problem.

If the Commission declines to involve the upper 700 MHz band in its resolution of the 800 MHz Public Safety interference problem, the Commission should adopt all possible measures to ensure that all 800 MHz interference problems are permanently fixed. Boeing urges

⁶² See, e.g., Initial Comments of The Boeing Company, WT Docket No. 02-55 at 16-19 (filed May 6, 2002); Reply Comments of the Boeing Company, WT Docket No. 02-55 at 4-8 (filed Aug. 7, 2002); Supplemental Comments of The Boeing Company, WT Docket No. 02-55 at 7-8 (filed Sept. 23, 2002).

the Commission to consider the proposals contained in the Border Area Coalition's comments.⁶³ For example, the Commission should renegotiate Canadian and Mexican 800 MHz bilateral agreements to ensure a consistent solution for the entire United States. The Commission should also require Nextel to make technical modifications to its 800 MHz operations to provide both immediate and long term interference relief. Finally, the Commission should adopt general technical modifications to its 800 MHz rules to alleviate harmful interference and steadfastly develop and adhere to comprehensive interference mitigation guidelines.

VII. CONCLUSION

For all of the reasons discussed above, the solution proposed in the Consensus Parties' Supplement is unacceptable, given the resources and costs involved. There are other solutions that could reduce the probability of interference in a similar manner at a fraction of the cost. There are also other solutions that would reduce all Public Safety interference without turning the Commission's spectrum allocation and licensing policies on their heads. The Supplemental Plan is too radical and its effectiveness is too speculative to proceed. The Commission should reject the supplemented Consensus Plan outright.

⁶³ See Border Area Coalition Comments at 17-23.

Boeing encourages the Commission to take a leading role in independently identifying and valuing an appropriate, comprehensive, and equitable solution to the 800 MHz Public Safety interference problem. As a responsible corporate citizen, Boeing is ready and willing to participate in such a solution. The Commission should not attempt to build on the “tower of cards” that is the Consensus Plan. The Consensus Plan, as amended, is neither an effective nor an equitable proposal.

Respectfully submitted,

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